

# STATE OF MAINE DEPARTMENT OF TRANSPORTATION

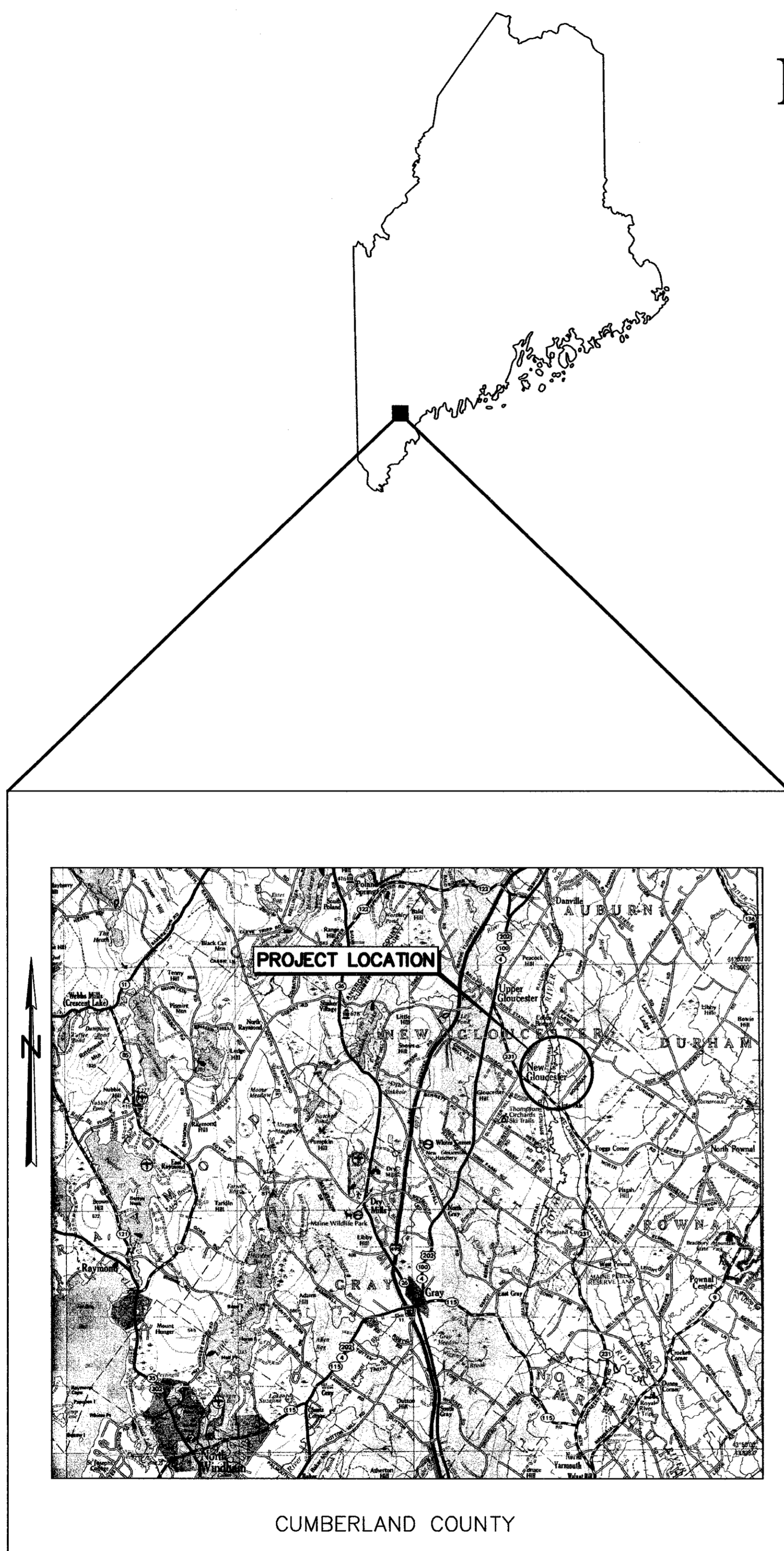


## NEW GLOUCESTER CUMBERLAND COUNTY

**PROJECT NO. NH-3517(90)E**  
A WETLAND MITIGATION PROJECT

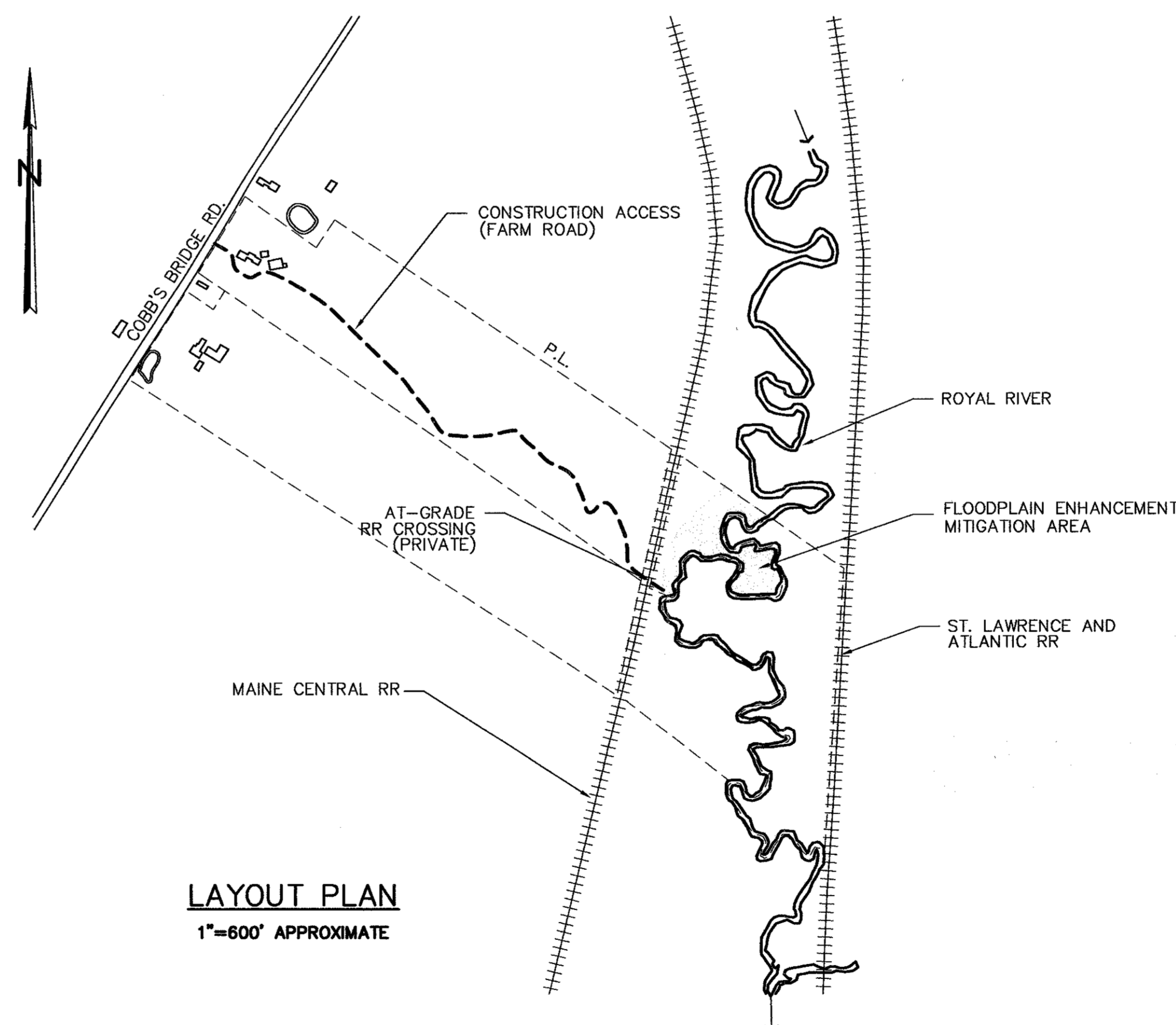
### INDEX OF SHEETS

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6	PLANTING AND MISCELLANEOUS DETAILS
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CUMBERLAND COUNTY

LOCATION MAP  
NTS




LAYOUT PLAN  
1"=600' APPROXIMATE

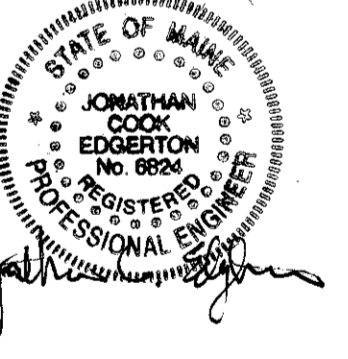
PLANS PREPARED BY:

 **WOODLOT  
ALTERNATIVES, INC.** 30 Park Drive, Topsham, Maine 04086  
(207)729-1199, Fax:(207)729-2715  
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ENVIRONMENTAL CONSULTANTS


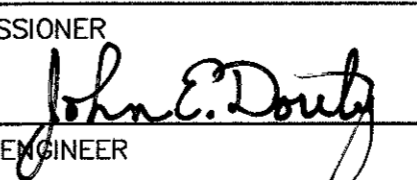
AND

 **Wright-Pierce**  
99 Main Street Topsham, Maine USA 04086  
TEL (207) 725-8721 FAX (207) 725-8414



APPROVED:

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

  
COMMISSIONER  
  
CHIEF ENGINEER

03/31/03  
DATE  
03/28/03  
DATE

UNITED STATES  
DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

REGION 1

APPROVED:

DIVISION ADMINISTRATOR  
DATE

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED		
CHECKED		
REVISIONS		
FIELD CHANGES		

PLANS

ESTIMATED QUANTITIES

GENERAL NOTES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	COMMENTS
203.232	MITIGATION EXCAVATION	220	CY	REFER TO SPECIAL PROVISION 203
607.15	DRIVE GATEWAY 16 FOOT – METAL	2	EA	REFER TO SPECIAL PROVISION 607 AND SPECIAL DETAILS
610.08	PLAIN RIPRAP	3	CY	REFER TO SPECIAL DETAILS
613.329	EXTENDED USE EROSION CONTROL BLANKET – COIR	190	SY	REFER TO SPECIAL PROVISION 613 AND SPECIAL DETAILS
614.10	COIR FIBER ROLL	160	LF	REFER TO SPECIAL PROVISION 614 AND SPECIAL DETAILS
614.20	STREAMBANK REHABILITATION	175	SY	INCLUDES AREAS OF STREAMBANK REGRADING
618.143	SPECIAL SEED MIX: ROYAL RIVER #1	10	UN	INCLUDES ONLY AREAS SEEDED UNDER SPECIAL PROVISION 618
618.25	APPLIED WATER	5	MG	
621.014	EVERGREEN TREES (18" – 24") GROUP A	100	EA	REFER TO SPECIAL PROVISION 621
	WHITE PINE (PINUS STROBUS)	100		
621.225	DECIDUOUS TREES (18" – 24") GROUP A	200	EA	REFER TO SPECIAL PROVISION 621
	BASSWOOD (TILIA AMERICANA)	200		
621.245	DECIDUOUS TREES (2' – 3') GROUP A	410	EA	REFER TO SPECIAL PROVISION 621
	AMERICAN HORNBEAM (CARPINUS CAROLINIANA)	60		
	WHITE ASH (FRAXINUS AMERICANA)	150		
	GREEN ASH (FRAXINUS PENNSYLVANICA)	200		
621.246	DECIDUOUS TREES (3' – 4') GROUP A	100	EA	REFER TO SPECIAL PROVISION 621
	RED MAPLE (ACER RUBRUM)	100		
621.53	DECIDUOUS SHRUBS (8" – 15") GROUP B	706	EA	PLANTS ARE TO BE TUBELINGS, REFER TO SPECIAL PROVISION 621
	SPECKLED ALDER (ALNUS INCANA)	100		
	PUSSY WILLOW (SALIX DISCOLOR)	200		
	STREAMCO WILLOW (SALIX PURPUREA)	200		
	RED OSIER DOGWOOD (CORNUS SERICEA)	100		
	ARROWWOOD (VIBURNUM DENTATUM)	100		
621.54	DECIDUOUS SHRUBS (18" – 24") GROUP A	270	EA	REFER TO SPECIAL PROVISION 621
	SPECKLED ALDER (ALNUS INCANA)	100		
	WINTERBERRY (ILEX VERTICILLATA)	30		
	WILD RAISIN (VIBURNUM NUDUM)	30		
	PUSSY WILLOW (SALIX DISCOLOR)	30		
	RED OSIER DOGWOOD (CORNUS SERICEA)	30		
	SILKY DOGWOOD (CORNUS AMOMUM)	50		
621.80	ESTABLISHMENT PERIOD	1	LS	REFER TO SPECIAL PROVISION 621
621.93	TREE SHELTERS	710	EA	FOR USE ONLY ON PLANTED DECIDUOUS TREES
629.05	HAND LABOR, STRAIGHT TIME	40	MH	CONTINGENCY ITEM
631.171	TRUCK – SMALL (INC OPERATOR)	8	HR	CONTINGENCY ITEM
631.19	MOW MACHINE RENTAL (INC OP & HAULER)	32	HR	REFER TO PLAN NOTES AND SPECIAL PROVISION 621
659.10	MOBILIZATION	1	LS	

SCHEDULE:

- THE SCHEDULE FOR THIS MITIGATION CONSTRUCTION SHALL CONFORM TO SPECIAL PROVISION SECTION 107 – TIME.
- THE CONTRACTOR SHALL SUBMIT A DETAILED CONSTRUCTION SCHEDULE AND OUTLINE OF CONSTRUCTION METHODOLOGIES FOR PROPOSED WORK WITHIN 10 DAYS OF CONTRACT AWARD FOR APPROVAL BY THE RESIDENT.
- THE CONSTRUCTION WINDOW FOR STREAMBANK REHABILITATION WORK SHALL BE JULY 14 THROUGH AUGUST 31, 2003, DUE TO THE NEED TO WORK DURING THE TYPICAL PERIOD OF LOWEST ANNUAL RIVER FLOWS, AND ONLY DURING LOW FLOW CONDITIONS. PLANTING WITHIN THE FLOODPLAIN SHALL OCCUR AFTER COMPLETION OF THE RIVERBANK WORK. THE WINDOW FOR FLOODPLAIN PLANTING SHALL BE SEPTEMBER 1 THROUGH SEPTEMBER 26, 2003. THE CONTRACTOR SHALL PLAN THE CONSTRUCTION AND PLANTING WORK TO OCCUR DURING THESE STATED PERIODS.

ACCESS AND CONSTRUCTION LIMITS:

- SITE ACCESS IS AVAILABLE OFF COBB'S BRIDGE ROAD AND IS LIMITED TO AN EXISTING PAVED DRIVEWAY AND AN UNIMPROVED FARM ROAD. THE CONSTRUCTION OF NEW TEMPORARY OR PERMANENT ACCESS ROADS IS NOT ANTICIPATED UNDER THIS CONTRACT.
- ALL DAMAGE TO THE EXISTING PAVED DRIVEWAY BY THE CONTRACTOR'S EQUIPMENT, PERSONNEL, OR OPERATIONS SHALL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT. ALL WORK, EQUIPMENT, AND MATERIALS REQUIRED TO MAKE REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE.
- THE COST OF FURNISHING EQUIPMENT, MATERIALS, AND LABOR TO UPGRADE AND MAINTAIN THE EXISTING FARM ACCESS ROAD FOR SITE ACCESS SHALL BE INCIDENTAL TO THIS CONTRACT.
- MATERIAL USED TO UPGRADE OR MAINTAIN THE EXISTING FARM ACCESS ROAD SHALL BE LIMITED TO SPOT TREATMENTS OF MATERIAL MEETING THE REQUIREMENTS FOR GRANULAR BORROW (SEE SUBSECTION 703.19 OF THE STANDARD SPECIFICATIONS).
- ALL VEHICLES AND EQUIPMENT SHALL BE CONFINED TO THE EXISTING ACCESS ROADS AND THE VEHICLE LIMITS SHOWN ON THE PLANS, UNLESS OTHERWISE PERMITTED IN THE SPECIAL PROVISIONS.
- DAMAGE TO EXISTING SHRUBS AND TREES OR OTHER FEATURES TO REMAIN WILL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT BY THE CONTRACTOR AT ITS SOLE EXPENSE.
- ACCESS TO THE SITE REQUIRES THE USE OF A PRIVATE, UNIMPROVED RAIL CROSSING. RESTRICTIONS AND LIMITATIONS ON THE USE OF THIS CROSSING ARE OUTLINED IN THE SPECIAL PROVISIONS.

CONSTRUCTION:

- ALL CONSTRUCTION OPERATIONS SHALL BE CONDUCTED, INSPECTED, AND MAINTAINED IN COMPLIANCE WITH THE BEST MANAGEMENT PRACTICES (BMP) FOR EROSION AND SEDIMENT CONTROL MANUAL, MAINE DEPARTMENT OF TRANSPORTATION, SEPTEMBER 2002.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT, WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO, ESTABLISHING, CHECKING, AND MAINTAINING ALL LINES, SLOPES, AND GRADES THROUGHOUT CONSTRUCTION.
- EROSION CONTROL MEASURES SHALL BE DESIGNED, INSTALLED, AND MAINTAINED BY THE CONTRACTOR IN ACCORDANCE WITH SPECIAL PROVISION SECTION 656 – TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL.
- THE CONTRACTOR SHALL MOW THE PROPOSED PLANTING AREAS AT LEAST TWICE DURING THE SUMMER OF 2003 PRIOR TO PLANTING AT THE DIRECTION OF THE RESIDENT. MOWING WILL BE PAID FOR UNDER ITEM 631.19 – MOWING MACHINE RENTAL.

CONSTRUCTION (CONT.):

- SOIL MATERIAL FROM BASIN EXCAVATION SHALL BE USED ON THE STREAMBANK REHABILITATION AREAS AS NEEDED, AND THE REST RE-SPREAD ON THE SPECIFIC PLANTING BED AREAS INDICATED ON THESE PLANS, ALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS. NO SOIL MATERIAL SHALL BE MOVED OFF SITE UNLESS AUTHORIZED BY THE RESIDENT.
- ELEVATIONS AND LOCATIONS OF PROPOSED STREAMBANK STABILIZATION TREATMENTS, AS SHOWN ON PLANS, ARE APPROXIMATE. A WETLAND SPECIALIST WILL BE AVAILABLE TO ASSIST THE CONTRACTOR IN DETERMINING THE ACTUAL PLACEMENTS BASED ON SOIL CONDITIONS AND RIVER FLOWS ENCOUNTERED DURING CONSTRUCTION.
- AFTER CONSTRUCTION IS COMPLETE, THE CONTRACTOR SHALL REMOVE ANY GRANULAR MATERIAL OR OTHER ITEMS PLACED OUTSIDE OF THE LIMITS OF THE EXISTING FARM ROAD, LOOSEN SOIL IN COMPACTED AREAS AND SEED WITH SPECIAL SEED MIX: ROYAL RIVER #1. RESTORATION AND SEEDING SHALL BE APPROVED BY THE RESIDENT AND SHALL BE INCIDENTAL TO THIS CONTRACT.

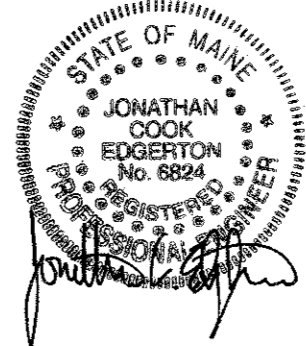
GENERAL CONSTRUCTION SEQUENCE:

- THE PROJECT IS DESIGNED TO FOLLOW THE GENERAL SEQUENCE LISTED BELOW:
  - MOW THE DESIGNATED PLANTING AREAS WITHIN THE FLOODPLAIN (JULY).
  - LAYOUT BASIN EXCAVATION AND STREAMBANK REHABILITATION AREAS.
  - EXCAVATE BASINS AND RE-GRADE STREAMBANK, SPREADING ALL EXCESS SOIL MATERIAL ONTO THE DESIGNATED PLANTING BED AREAS. COVER THESE PLANTING BED AREAS WITH STRAW MULCH TO PROTECT FROM EROSION.
  - INSTALL COIR FIBER ROLLS AND EXTENDED USE EROSION CONTROL BLANKETS ON STREAMBANK STABILIZATION AREAS. SEED REGRADED BANK AREAS PRIOR TO INSTALLING BLANKETS.
  - INSTALL TUBELING SHRUBS IN STREAMBANK STABILIZATION AREAS, BEGIN WATERING THESE PLANTS AS NEEDED AND REQUIRED.
  - MOW DESIGNATED FLOODPLAIN AREAS FOR THE SECOND TIME (JUST PRIOR TO PLANTING SHRUBS AND TREES).
  - ROTOILL THE PLANTING BEDS WHERE EXCESS SOIL WAS SPREAD. STRAW MULCH PREVIOUSLY APPLIED TO THESE PLANTING BEDS SHALL BE ROTOTILLED IN.
  - INSTALL FLOODPLAIN PLANTINGS, TREE SHELTERS, AND PLANT MATS AS SPECIFIED.
  - SITE CLEAN-UP, CONTINUE WATERING AND MAINTAINING ALL PLANTS AND SEEDED AREAS.

SEEDING AND PLANTING:

- SEEDING AND PLANTING OPERATIONS SHALL BE IN ACCORDANCE WITH THESE PLANS AND THE SPECIAL PROVISIONS.
- SPECIAL SEED MIX: ROYAL RIVER #1 SHALL BE USED ON ALL AREAS OF THE SITE TO BE SEEDED, INCLUDING THOSE SPECIFIED UNDER SPECIAL PROVISION SECTION 618 – SEEDING, AS WELL AS ALL OTHER PERMANENT SEEDING THAT IS INCIDENTAL TO OTHER ITEMS AND SPECIAL PROVISIONS.

PROJECT DESIGN	DATE
RESIDENT	BY
DESIGN-DETAILED	
CHECKED	
REVISIONS	
FIELD CHANGES	
PLANS	



PLOT DATE: 6/9/03  
AutoCAD File: quant-notes.dwg

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

ROUTE 26  
NEW GLOUCESTER-POLAND  
ROYAL RIVER MITIGATION SITE  
FLOODPLAIN RESTORATION

QUANTITIES AND NOTES

U.S. CUSTOMARY

1. All dimensions are in feet unless otherwise noted.  
2. All elevations and stations are in feet.

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
	MAINE	NH-3517(90)E	3	7

PIN 3517.90

ROYAL RIVER #1 SEED MIX

PLANT NAME	BOTANICAL NAME	% BY WEIGHT
ANNUAL RYEGRASS	<i>Lolium perenne</i>	50
WHITE CLOVER	<i>Trifolium repens</i>	25
REDTOP	<i>Agrostis gigantea</i>	25

TREES AND SHRUBS TO BE PLANTED IN FLOODPLAIN

PLANT NAME	BOTANICAL NAME	CODE	TOTAL NO.	MIN. SIZE
TREES				
RED MAPLE	<i>Acer rubrum</i>	ACE RUB	100	3'-4'
BASSWOOD	<i>Tilia americana</i>	TIL AME	200	18"-24"
AMERICAN HORNBEAM	<i>Carpinus caroliniana</i>	CAR CAR	60	2'-3'
WHITE ASH	<i>Fraxinus americana</i>	FRA AME	150	4'-5'
GREEN ASH	<i>Fraxinus pennsylvanica</i>	FRA PEN	200	2.5'-3'
WHITE PINE	<i>Pinus strobus</i>	PIN STR	100	18"-24"
SHRUBS				
SPECKLED ALDER	<i>Alnus incana</i>	ALN INC	100	18"-24"
WINTERBERRY	<i>Ilex verticillata</i>	ILE VER	30	18"-24"
WILD RAISIN	<i>Viburnum nudum</i>	VIB NUD	30	18"-24"
PUSSY WILLOW	<i>Salix discolor</i>	SAL DIS	30	18"-24"
RED OSIER DOGWOOD	<i>Cornus sericea</i>	COR SER	30	18"-24"
SILKY DOGWOOD	<i>Cornus amomum</i>	COR AMO	50	18"-24"
TOTAL			1,080	

PLANTING SCHEDULE - NUMBER OF PLANTS TO INSTALL PER PLANTING AREA

AREA	SIZE (FT <sup>2</sup> )	ACE RUB	TIL AME	CAR CAR	FRA AME	FRA PEN	PIN STR	ALN INC	ILE VER	VIB NUD	SAL DIS	COR SER	COR AMO	TOTALS
1	2,605	4	8	2	4	9	4	5	2		3	2	3	46
2	1,615	3	5	1	2	5	3	5			2	1	2	29
3	2,637	4	8	2	4	10	4	5		2	3	2	3	47
4	1,593	4	5	4	4	8	3							28
5	1,173	2	3	1	2	3	1	3	1	1		1	3	21
6	1,981	4	8	3	3	5	4	3	2	2			1	35
7	3,907	5	15	4	9	12	5	4	3	3	2	4	4	70
8	3,584	4	14	3	8	10	3	4	3	4	3	3	5	64
9	915	2	3	1	3	4	3							16
10	3,315	5	7	7	7	10	6	4	3	3	2	4	1	59
11	1,539	2	5	4	5	6	5							27
12	1,033	1	6		5	2	4							18
13	2,174	4	8	3	4	2	5	3	2	2	2		4	39
14	1,152	2	2		5	3	1	5					3	21
15	1,808	5	5	2	3	5	3	4	2	1	1	1		32
16	1,076							5	3	2	2	2	5	19
17	1,755		8			7		7		2	2	1	4	31
18	3,165	6	14	4	4	6	5	8	2	2	2	1	2	56
19	4,187	10	21	8	8	20	8							75
20	2,680	4	8	3	10	10	3	5	1	1	1	2	2	50
21	4,370	7	11	2	15	16	7	8	2	1	2	2	2	75
22	4,402	8	12	2	15	16	8	8	2	1	1	2	2	77
23	3,434	7	12	2	15	15	7	6	1	1	1	1	2	70
24	4,392	7	12	2	15	16	8	8	1	2	1	1	2	75
TOTALS	60,492	100	200	60	150	200	100	100	30	30	30	30	50	1,080

FLOODPLAIN PLANTING AND SEEDING NOTES:

- PLANTING OF TREES AND SHRUBS IN THE FLOODPLAIN SHALL TAKE PLACE AFTER COMPLETION OF STREAMBANK REHABILITATION WORK (REFER TO SHEET 4 AND SPECIAL PROVISION SECTION 614). ALL FLOODPLAIN PLANTINGS ARE DESIGNATED GROUP A.
- PLANTS SHALL BE INSTALLED IN THE DESIGNATED PLANTING GROUP AREAS SHOWN ON THESE PLANS. SOIL EXCAVATED FROM SHALLOW BASINS SHALL BE SPREAD ON SOME OF THESE PLANTING AREAS (SEE PROPOSED PLANTING BED LOCATIONS) AT A DEPTH OF 6-8 INCHES, THEN ROTOTILLED INTO THE EXISTING SOD PRIOR TO PLANTING, ALL IN ACCORDANCE WITH SPECIAL PROVISION SECTIONS 203 AND 621.
- THE WINDOW FOR FLOODPLAIN PLANTING SHALL BE SEPTEMBER 1 THROUGH SEPTEMBER 26, 2003. THE WETLAND SPECIALIST WILL ESTABLISH THE PLANTING LAYOUTS IN THE FIELD WITH CONTRACTOR-PROVIDED COLOR-CODED WIRE FLAGS PRIOR TO THE ONSET OF THE PLANTING WINDOW.
- PLANTS TO BE INSTALLED SHALL BE TRUE TO THE SPECIES AND TYPE SPECIFIED ON THE PLANS. ALL PLANTS SHALL BE NURSERY-GROWN FROM STOCK THAT IS NATIVE TO NEW ENGLAND OR THE NORTHEAST. NO SUBSTITUTIONS SHALL BE MADE IN REGARD TO SPECIES, SIZE, TYPE, QUALITY, OR QUANTITY WITHOUT PRIOR APPROVAL FROM THE RESIDENT. ANY REQUESTS FOR SUBSTITUTIONS DUE TO AVAILABILITY PROBLEMS SHALL BE MADE WITHIN 2 WEEKS OF CONTRACT AWARD.
- PLANTS SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANTING PLANS AND DETAILS AND SPECIAL PROVISION SECTION 621 - LANDSCAPING, UNLESS OTHERWISE DIRECTED BY THE RESIDENT. ALL PLANTS SHALL BE "CLASS B", WITH THE EXCEPTION THAT PLANT PITS SHALL BE EXCAVATED ACCORDING TO TYPICAL PLANTING DETAIL ON SHEET 6, AND THAT PLANTS SHALL BE FERTILIZED AT THE TIME OF PLANTING WITH ORGANIC, SLOW-RELEASE PELLETS OR PACKETS OF WATER-SOLUBLE FERTILIZER.
- TREES AND SHRUBS SHALL BE PLANTED WITHIN THE PLANTING AREAS IN RANDOMLY-SPACED CLUSTERS RATHER THAN ROWS (SEE TYPICAL PLANTING DETAIL ON SHEET 6). SHALLOW EXCAVATED BASINS AND THE 20-FOOT WIDE FARM ACCESS ROW SHOWN ON THIS PLAN SHALL BE LEFT UNPLANTED.
- UNLESS OTHERWISE DIRECTED BY THE RESIDENT, INDIVIDUAL TREES SHALL BE PLANTED NO CLOSER THAN 6 FEET APART. SHRUBS MAY BE PLANTED IN TIGHTER CLUMPS, WITH INDIVIDUAL PLANTS NO CLOSER THAN 3 FEET APART.
- ALL PLANTED TREES AND SHRUBS SHALL BE MULCHED WITH WEED BARRIER PLANT MATS TO RETAIN SOIL MOISTURE AND CONTROL WEED GROWTH. FABRIC SHALL BE PLACED AT THE BASE OF INDIVIDUAL PLANTS OR PLANT CLUMPS TO PROVIDE AT LEAST A 3-FOOT BY 3-FOOT AREA OF COVERAGE (SEE TYPICAL DETAIL ON SHEET 6).

FLOODPLAIN PLANTING AND SEEDING NOTES (CONT.):

- AS SPECIFIED IN SPECIAL PROVISION SECTION 621-LANDSCAPING, TREE SHELTERS/PROTECTORS SHALL BE INSTALLED ON ALL PLANTED DECIDUOUS TREES. TREE SHELTERS SHALL BE INSTALLED ACCORDING TO TYPICAL TREE SHELTER DETAIL ON SHEET 6. THE CONTRACTOR SHALL MAINTAIN THE TREE SHELTERS FOR A PERIOD OF TWO YEARS FOLLOWING INSTALLATION. UNLESS OTHERWISE DIRECTED BY THE RESIDENT, TREE SHELTERS SHALL BE LEFT IN PLACE AT THE END OF TWO YEARS.
- SPECIAL SEED MIX: ROYAL RIVER #1, SHOWN ON THIS SHEET, SHALL BE USED FOR ALL SEEDING AT THE SITE, AS OUTLINED IN SPECIAL PROVISION SECTIONS 613, 618, AND 656. SEED SHALL BE APPLIED AT THE RATE OF APPROXIMATELY 4 LBS PER 1,000 SQ. FT. THE CONTRACTOR SHALL HAVE THE SPECIFIED SEED MIX AVAILABLE FOR PLACEMENT THROUGHOUT THE CONSTRUCTION PERIOD.
- SEEDING AREAS SHALL BE COVERED WITH TEMPORARY EROSION CONTROL BLANKET OR WEED-FREE STRAW MULCH IN ACCORDANCE WITH SECTION 656. THE USE OF HAY MULCH IS STRICTLY PROHIBITED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING THE PLANTS AND SEEDING AREAS AT THE TIME OF INSTALLATION AND FOR THE FIRST TWO GROWING SEASONS TO PROMOTE PLANT GROWTH AND SURVIVAL, ALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL FURNISH AND INSTALL THE SPECIFIED PIPE GATES AT ACCESS POINTS NEAR RAILROAD TRACK AS INDICATED ON THIS PLAN (SEE TYPICAL PIPE GATE DETAIL ON SHEET 6). PRIOR TO INSTALLING THE GATES, THE CONTRACTOR SHALL CONFIRM AND MARK THE LOCATIONS OF THE GATES FOR APPROVAL BY THE RESIDENT.

PLOT DATE: 6/9/03  
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STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

ROUTE 26  
NEW GLOUCESTER-POLAND

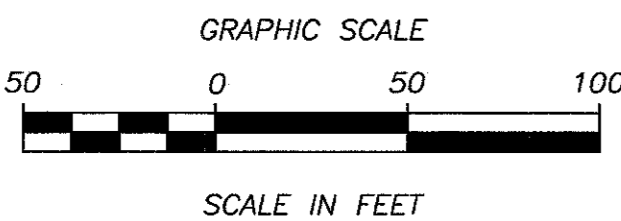
ROYAL RIVER MITIGATION SITE  
FLOODPLAIN RESTORATION

EXISTING CONDITIONS, BASIN EXCAVATION,  
FLOODPLAIN PLANTING AND SEEDING

SHEET 3 OF 7

AUGUSTA, MAINE

JUNE 2003



LEGEND

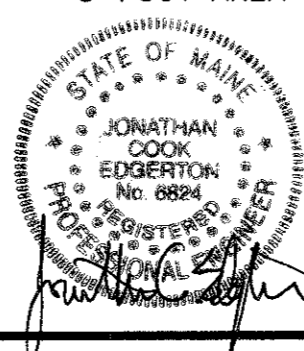
- PROPERTY LINE (APPROXIMATE)
- EXISTING CONTOURS (6")
- EXISTING SHRUB LINE
- EXISTING RAILROAD
- EXISTING SHALLOW WETLAND BASINS
- PROPOSED BASIN AREAS TO BE DEEPENED (SEE NOTE 1, BASIN EXCAVATION/DEEPENING)
- VEHICLE/EQUIPMENT ACCESS LIMIT (10' FROM TOP OF STREAMBANK, TYP.)
- FARM ACCESS ROW (TO BE LEFT UNPLANTED)
- PROPOSED PLANTING AREAS (SEE PLANTING NOTES AND SPECIAL PROVISIONS)
- PLANTING AREA NUMBER (REFER TO PLANTING SCHEDULE TABLE)
- PROPOSED PLANTING BEDS FOR SOIL SPREADING (SEE PLANTING NOTES AND SPECIAL PROVISIONS)
- DETAIL IDENTIFIER
- SHEET WHERE DETAIL IS SHOWN
- SHEET WHERE DETAIL IS REFERENCED

GENERAL NOTES:

- BASE MAP INFORMATION, INCLUDING TOPOGRAPHY AND FEATURE LOCATIONS, PRODUCED BY WOODLOT ALTERNATIVES, INC., 2002. ALL ELEVATIONS ASSUMED. CONTOUR ELEVATIONS SHOWN ARE BASED ON AN ASSUMED ELEVATION OF 100' AT THE ORIGIN (GROUND LEVEL AT IRON PIN). PROPERTY LINES AND ACCESS EASEMENT LOCATION FROM A SURVEY BY TITCOMB ASSOCIATES, 2002.
- ALL WORK AT THIS SITE IS SUBJECT TO THE EQUIPMENT AND VEHICLE LIMITATIONS DESCRIBED IN THE SPECIAL PROVISIONS. AREAS WITHIN THE 10-FOOT STREAM SETBACK SHOWN ON THIS PLAN SHALL BE OFF LIMITS TO VEHICLES AND EQUIPMENT UNLESS OTHERWISE DIRECTED OR ALLOWED. TRAFFIC ACROSS THE NARROW LAND BRIDGE SHALL BE MINIMIZED.

BASIN EXCAVATION/DEEPENING

- THE SHALLOW WETLAND BASINS SHOWN ON THESE PLANS SHALL BE EXCAVATED SO AS TO DEEPEN THEM BY 1.0-2.0 FEET, IN ACCORDANCE WITH SPECIAL PROVISION SECTION 203 AND AS INDICATED ON THIS SHEET AND THE SPECIAL DETAILS. THE CONTRACTOR SHALL MARK THE LIMITS OF EXCAVATION IN THE FIELD PRIOR TO CONSTRUCTION WITH ASSISTANCE FROM THE RESIDENT.
- SOIL MATERIAL EXCAVATED FROM THESE BASINS SHALL BE USED ON SITE AS DESCRIBED IN SPECIAL PROVISION SECTIONS 203 AND 614, AND AS DIRECTED. NONE OF THE EXCAVATED MATERIAL SHALL BE MOVED OFF SITE UNLESS AUTHORIZED BY THE RESIDENT.



U.S. CUSTOMARY

- 1) All dimensions are in feet unless otherwise noted.  
2) All elevations and stations are in feet.

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	MAINE	NH-3517(90)E	4	7

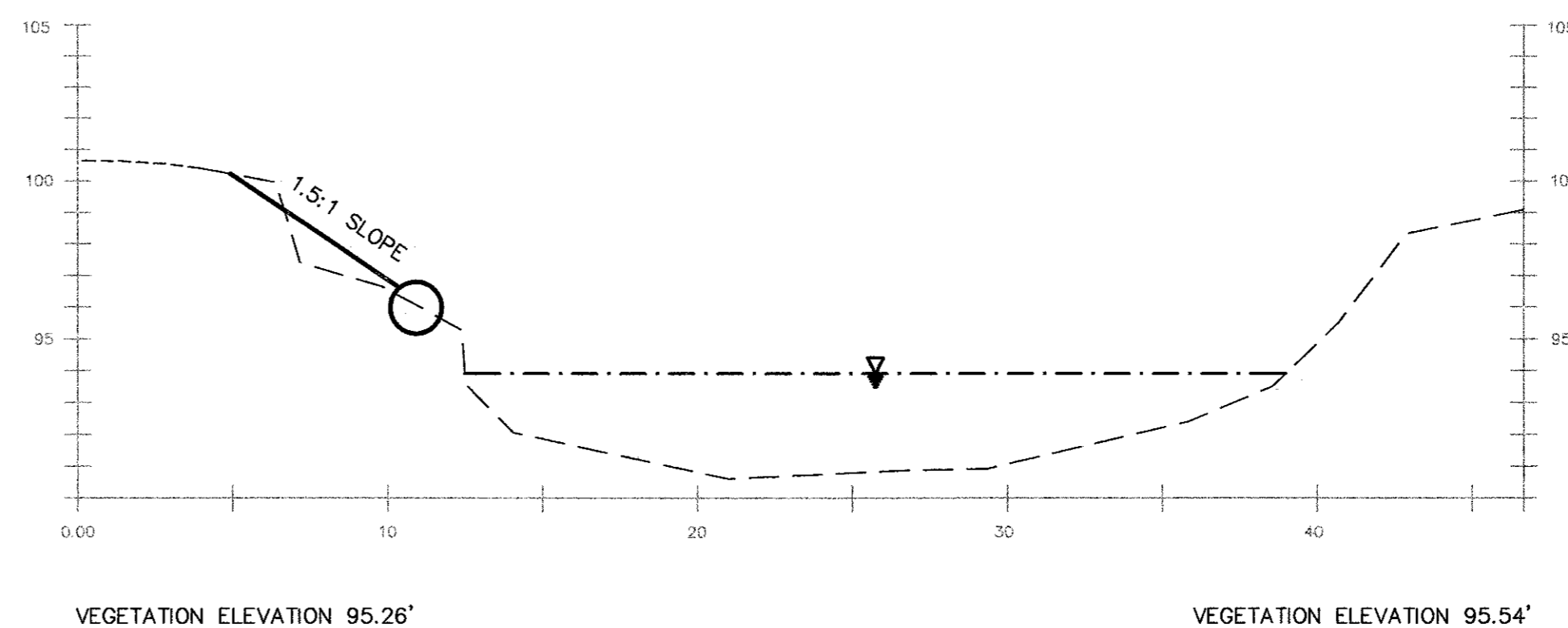
PN 3517.90

LEGEND

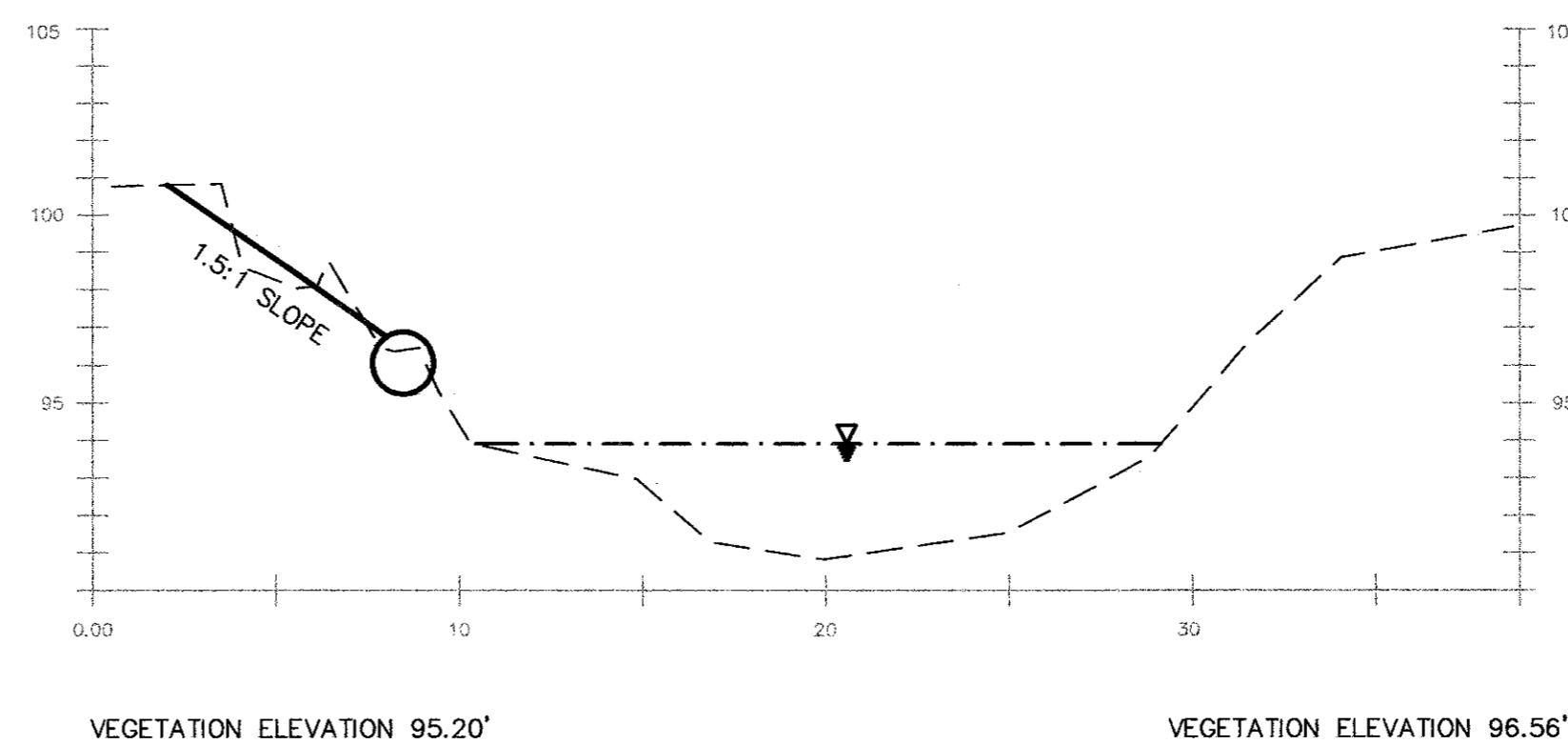
- EXISTING BANK AND BED GRADE  
--- APPROXIMATE PROPOSED BANK GRADE  
○ PROPOSED COIR FIBER ROLL  
▽ APPROXIMATE LOW-FLOW RIVER ELEVATION

NOTES:

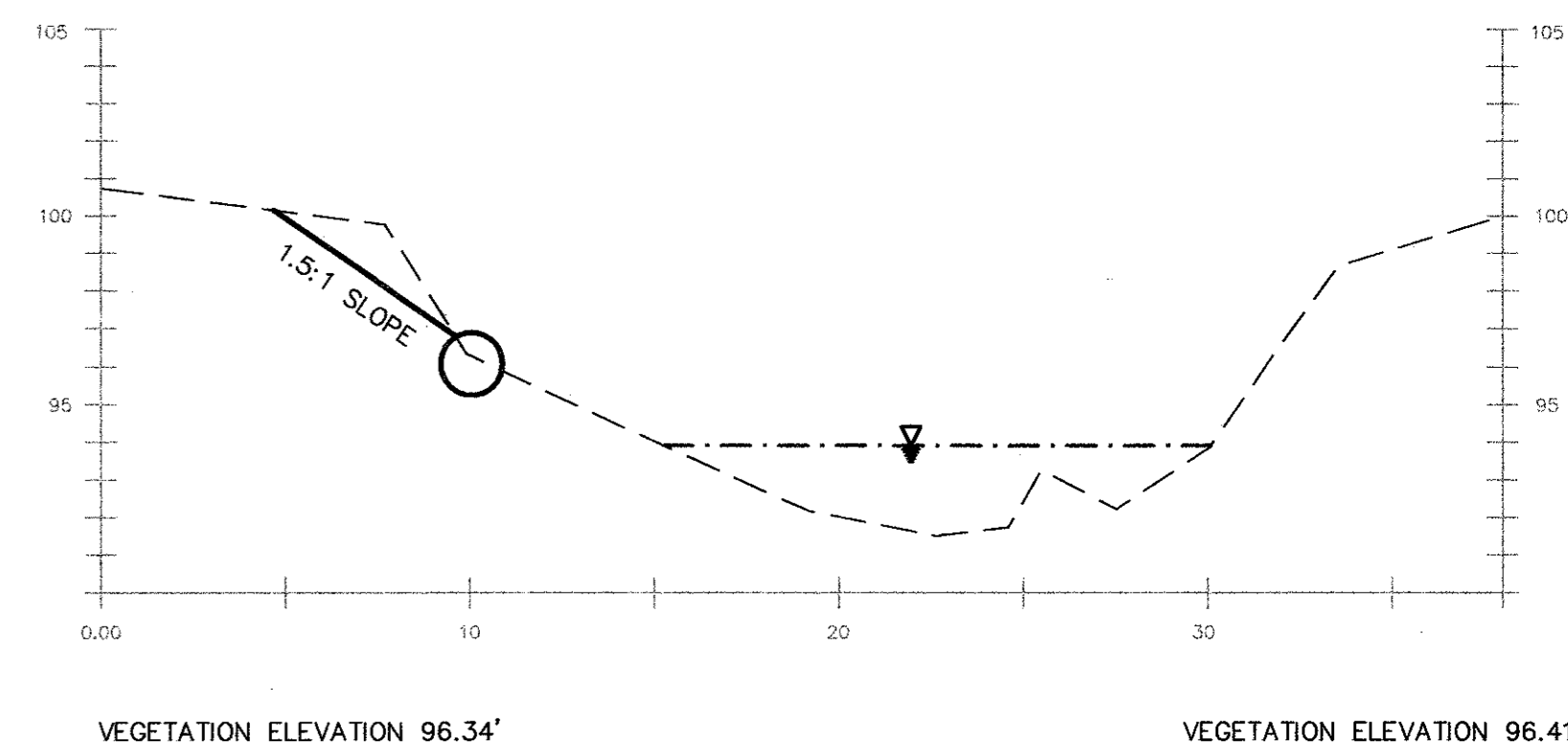
1. ALL SECTIONS SHOWN LOOKING UPSTREAM.  
2. ELEVATIONS SHOWN ARE ASSUMED AND APPROXIMATE.  
3. VEGETATION ELEVATIONS SHOWN REPRESENT LIMITS MEASURED IN AUGUST, 2002.  
4. ELEVATION/POSITION OF COIR FIBER ROLL PLACEMENT MAY BE ADJUSTED SLIGHTLY BY THE WETLAND SPECIALIST BASED ON CONDITIONS OBSERVED IN THE FIELD AT THE TIME OF CONSTRUCTION.



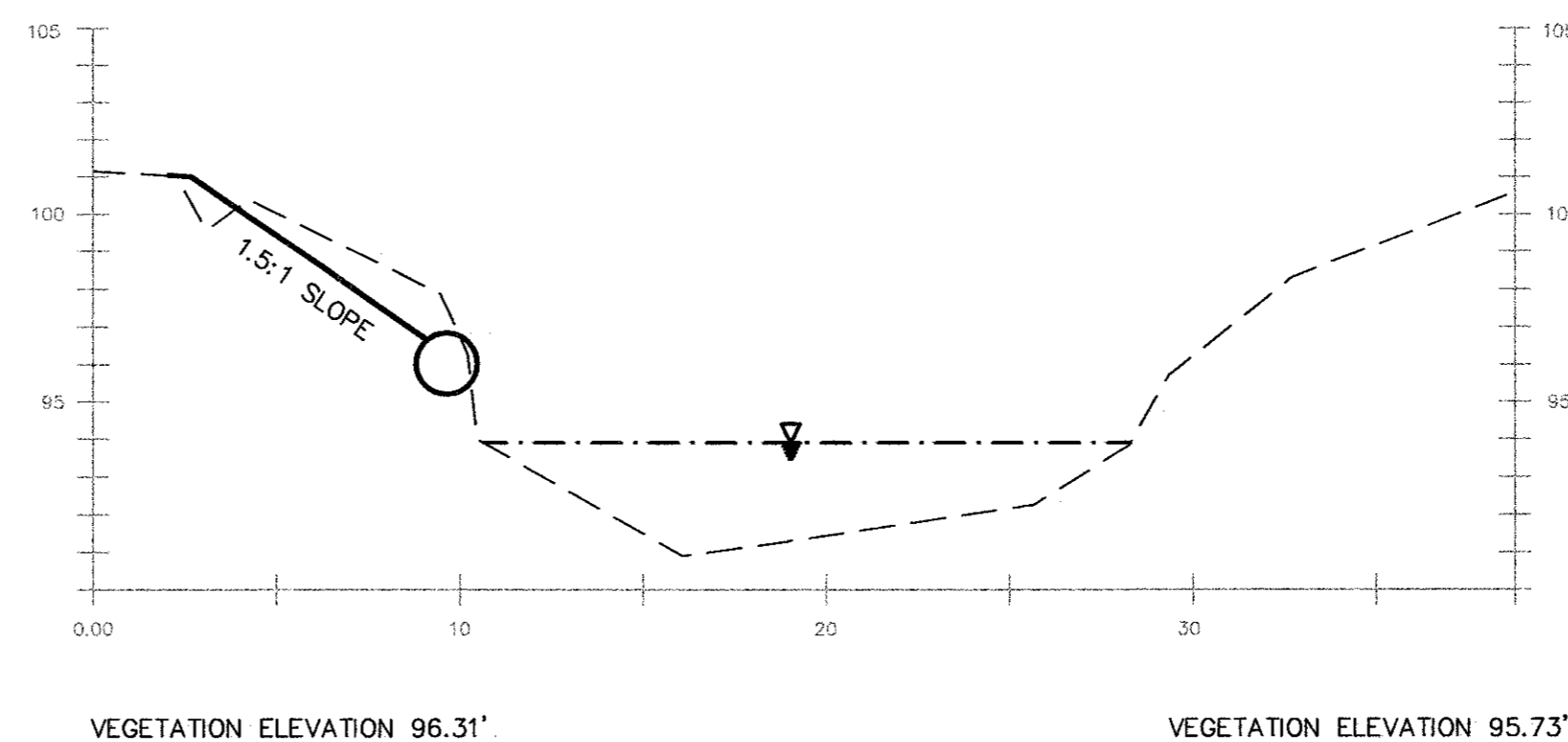
SECTION T1



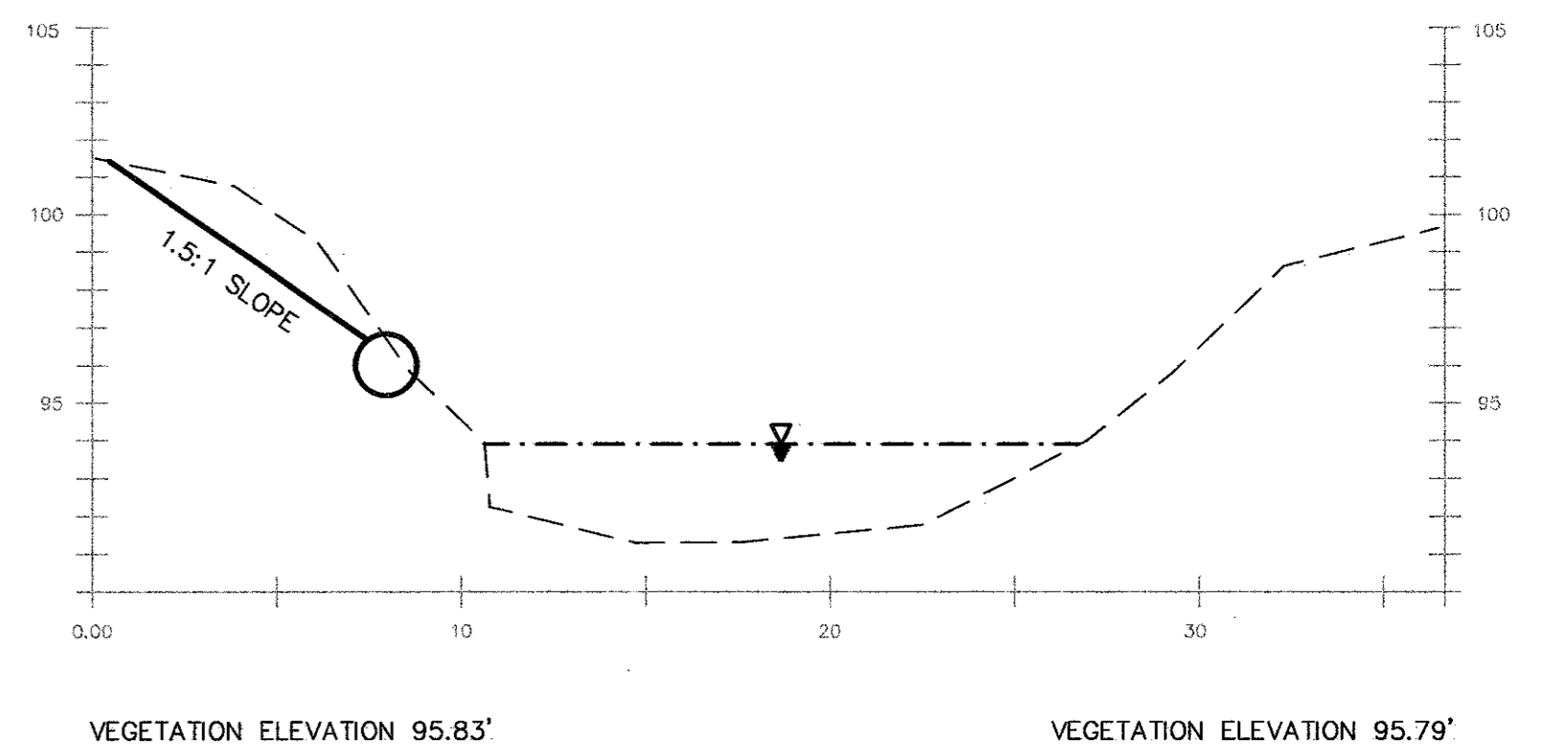
SECTION T2



SECTION T3



SECTION T4



SECTION T5

PLOT DATE: 6/9/03  
AutoCAD File: stabilization.dwg

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

ROUTE 26  
NEW GLOUCESTER-POLAND

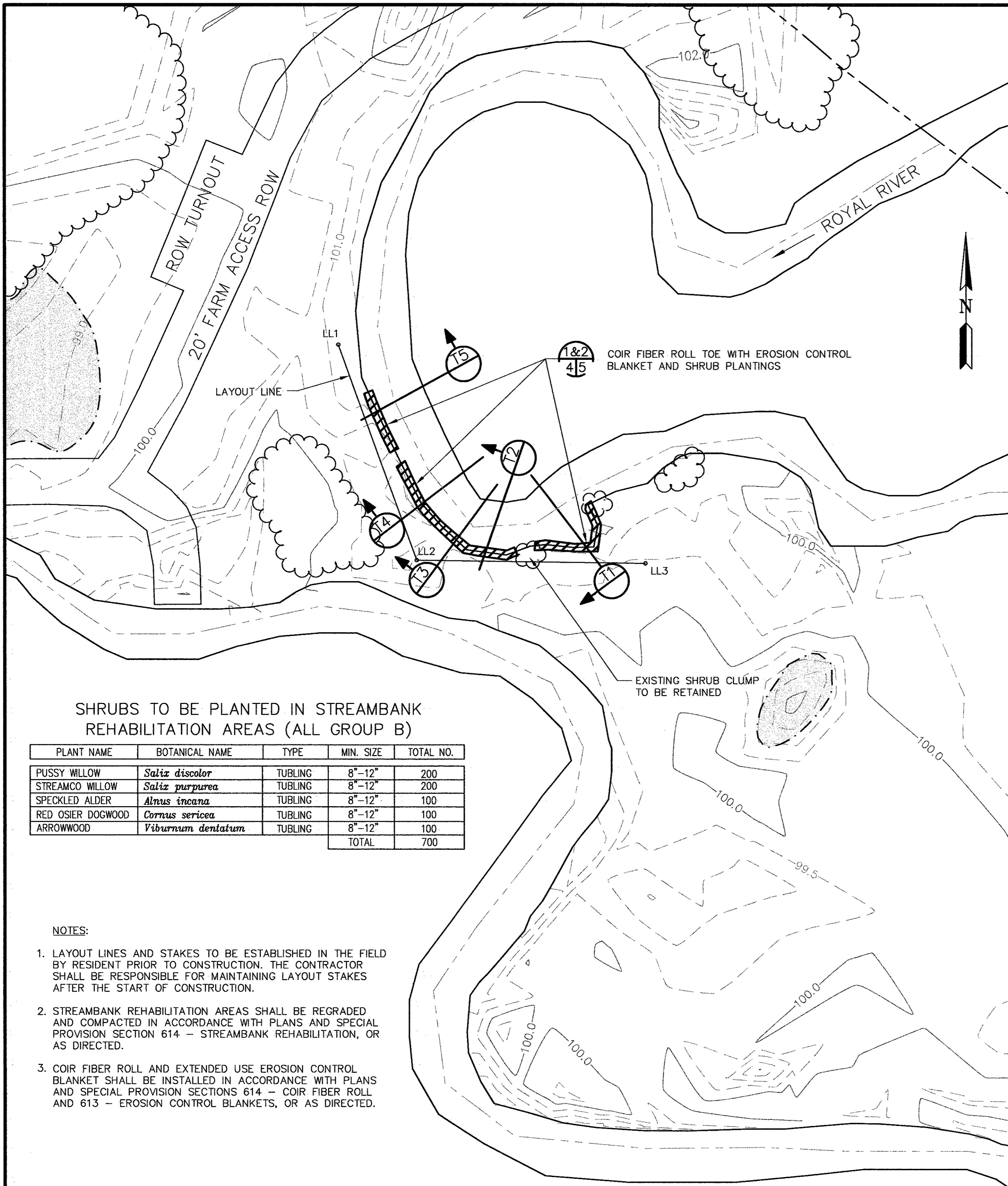
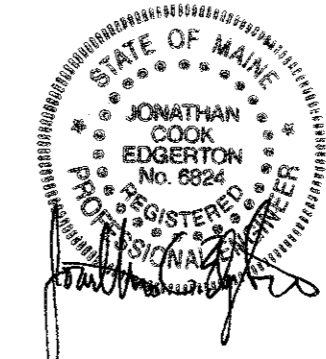
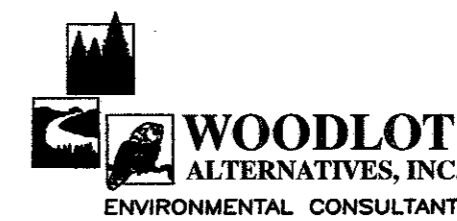
ROYAL RIVER MITIGATION SITE  
FLOODPLAIN RESTORATION

STREAMBANK REHABILITATION AREAS  
AND TYPICAL CHANNEL CROSS SECTIONS

SHEET 4 OF 7

AUGUSTA, MAINE

JUNE 2003



SHRUBS TO BE PLANTED IN STREAMBANK REHABILITATION AREAS (ALL GROUP B)

PLANT NAME	BOTANICAL NAME	TYPE	MIN. SIZE	TOTAL NO.
PUSSY WILLOW	<i>Salix discolor</i>	TUBLING	8"-12"	200
STREAMCO WILLOW	<i>Salix purpurea</i>	TUBLING	8"-12"	200
SPECKLED ALDER	<i>Alnus incana</i>	TUBLING	8"-12"	100
RED OSIER DOGWOOD	<i>Cornus sericea</i>	TUBLING	8"-12"	100
ARROWWOOD	<i>Viburnum dentatum</i>	TUBLING	8"-12"	100
TOTAL				700

NOTES:

1. LAYOUT LINES AND STAKES TO BE ESTABLISHED IN THE FIELD BY RESIDENT PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING LAYOUT STAKES AFTER THE START OF CONSTRUCTION.  
2. STREAMBANK REHABILITATION AREAS SHALL BE REGRADED AND COMPACTED IN ACCORDANCE WITH PLANS AND SPECIAL PROVISION SECTION 614 - STREAMBANK REHABILITATION, OR AS DIRECTED.  
3. COIR FIBER ROLL AND EXTENDED USE EROSION CONTROL BLANKET SHALL BE INSTALLED IN ACCORDANCE WITH PLANS AND SPECIAL PROVISION SECTIONS 614 - COIR FIBER ROLL AND 613 - EROSION CONTROL BLANKETS, OR AS DIRECTED.

LEGEND

- PROPERTY LINE (APPROXIMATE)  
--- EXISTING CONTOURS (6")  
--- EXISTING SHRUB LINE  
--- EXISTING SHALLOW WETLAND BASINS (SEE SHEET 3)  
--- FARM ACCESS ROW (TO BE LEFT UNPLANTED)  
--- LOCATION OF PROPOSED STREAMBANK REHABILITATION AREAS  
--- SECTION IDENTIFIER  
--- DETAIL IDENTIFIER  
--- SHEET WHERE DETAIL IS SHOWN  
--- SHEET WHERE DETAIL IS REFERENCED

PLAN VIEW  
GRAPHIC SCALE



SCALE IN FEET

SECTION VIEW  
GRAPHIC SCALE



SCALE IN FEET

PROJECT DESIGN	RESIDENT	DATE
DESIGN-DETAILED	CHECKED	
REVISIONS		
FIELD CHANGES		

PLANS

U.S. CUSTOMARY

- 1) All dimensions are in feet unless otherwise noted.  
2) All elevations and stations are in feet.

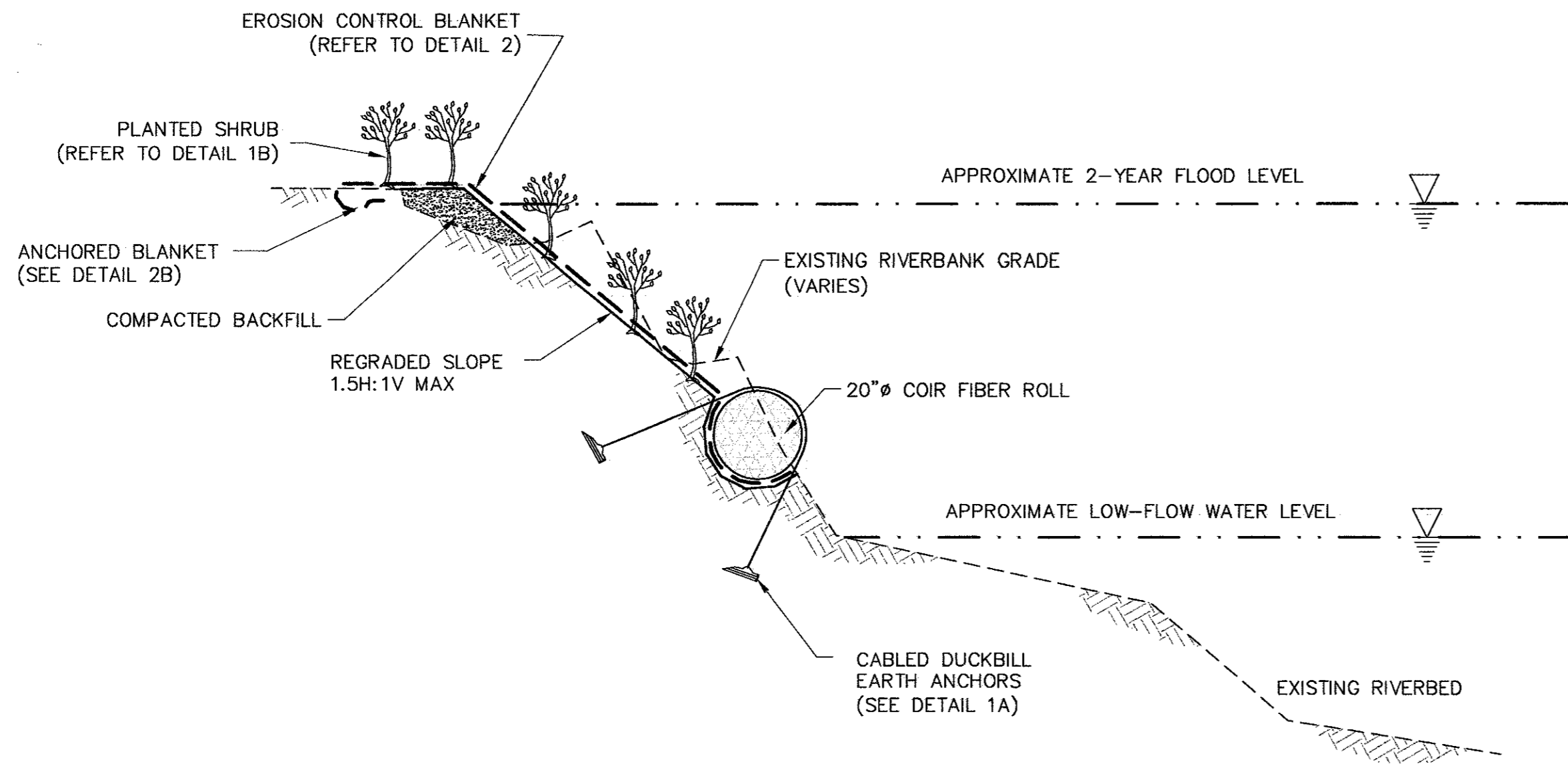
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
	MAINE	NH-3517(90)E	5	7

PN 3517.90

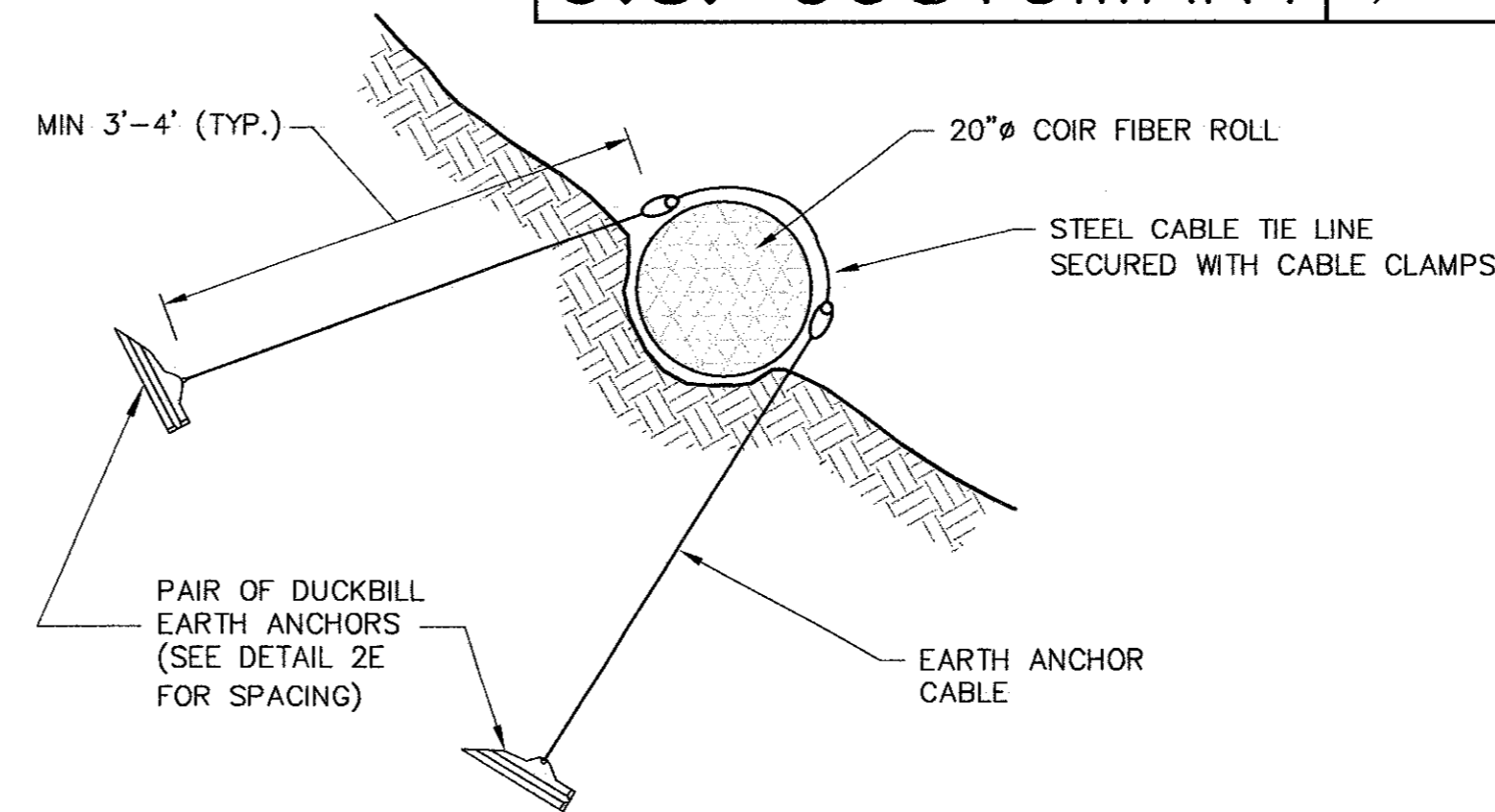
COIR LOG TOE WITH EROSION CONTROL BLANKETS AND PLANTINGS (TYP.)

NOT TO SCALE

1  
4/5



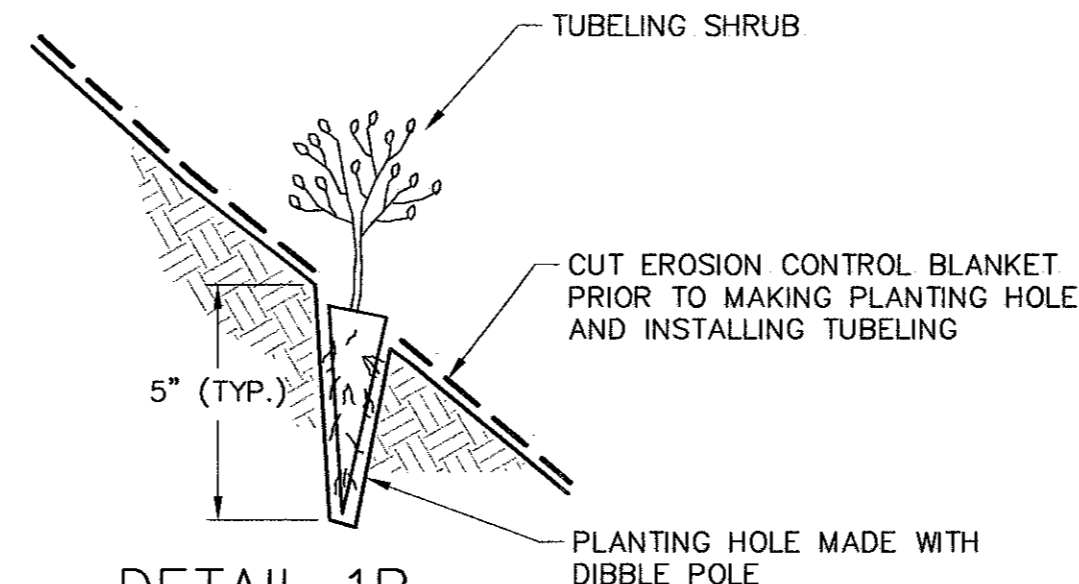
SECTION VIEW



DETAIL 1A  
NOT TO SCALE

TYPICAL TUBELING INSTALLATION

NOT TO SCALE

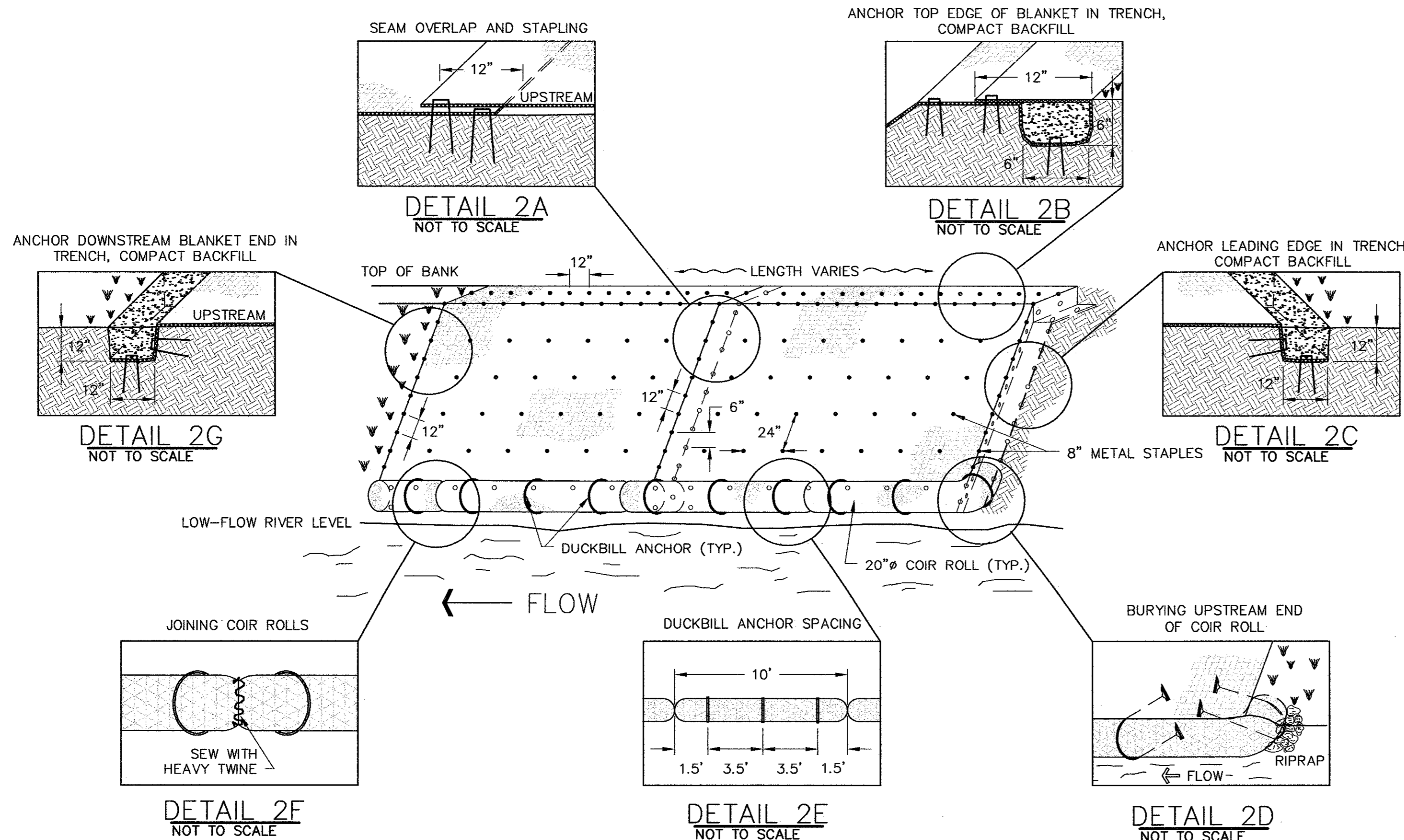


DETAIL 1B

COIR LOG AND EROSION CONTROL BLANKET INSTALLATION DETAILS (TYP.)

NOT TO SCALE

2  
4/5



CONSTRUCTION SEQUENCE (TYP.)

1. RESHAPE BANK AS SHOWN ON CROSS SECTIONS (WHICH ARE APPROXIMATE) FOR EACH STABILIZATION SECTION (SEE SHEET 4), AND IN ACCORDANCE WITH SPECIAL PROVISION SECTION 614 - STREAMBANK REHABILITATION. FINISHED SLOPES TO BE NO STEEPER THAN 1.5H:1.0V. PORTIONS OF STREAMBANK AND BED BELOW THE LIMIT OF REGRADED SHALL BE LEFT UNDISTURBED.
2. COMPACT SOIL ON REGRADED BANK SECTIONS IN ACCORDANCE WITH SPECIAL PROVISION SECTION 614 - STREAMBANK REHABILITATION.
3. ONCE BANK IS REGRADED AND COMPACTED, EXCAVATE A SHALLOW TRENCH FOR COIR FIBER ROLL (SEE DETAIL 1A). THE TRENCH SHALL BE DUG ALONG THE CONTOUR SLIGHTLY ABOVE THE LOW-FLOW RIVER ELEVATION, OR AS DIRECTED BY THE WETLAND SPECIALIST.
4. SPREAD SPECIAL SEED MIX: ROYAL RIVER #1 ON THE REGRADED SLOPE IN ACCORDANCE WITH SPECIAL PROVISION SECTION 613 - EROSION CONTROL BLANKETS. RAKE THE SEED IN LIGHTLY.
5. INSTALL EXTENDED USE WOVEN COIR EROSION CONTROL BLANKET ALONG SLOPE, STARTING WITH THE LOWER END STAPLED INTO THE SHALLOW TRENCH AT THE BASE OF THE SLOPE. LAY BLANKET LOOSELY ON THE SLOPE, PROVIDING GOOD CONTACT BETWEEN SOIL AND BLANKET. DO NOT STRETCH THE BLANKET TIGHT. SECURE THE BLANKET WITH TRENCHING AND STAPLES AS SHOWN IN DETAILS 2A THROUGH 2G.
6. INSTALL THE COIR FIBER ROLLS IN THE SHALLOW TRENCH USING DUCKBILL ANCHORS AND STEEL CABLES IN ACCORDANCE WITH SPECIAL PROVISION SECTION 614 - COIR FIBER ROLLS AND THE SPECIAL DETAILS ON THIS SHEET. PLACE COIR FIBER ROLLS OVER LOWER END OF BLANKET IN SUCH A MANNER AS TO HOLD BLANKET SECURELY. BUTT LOGS TOGETHER AND SEW THEIR OUTER NETTING TOGETHER USING HEAVY TWINE (DETAIL 2F). TURN UPSTREAM END OF COIR FIBER ROLL INTO BANK (DETAIL 2D), SECURE WITH ANCHORS, BURY, AND COMPACT SOIL. INTEGRATE EROSION CONTROL BLANKET AND RIPRAP (ITEM 610.08) IN THIS AREA TO PROVIDE PROTECTION FROM SCOUR AND EROSION ONCE RIVER RISES.
7. ONCE BLANKETS AND COIR FIBER ROLLS ARE SECURE, THE WETLAND SCIENTIST WILL LAY OUT LOCATIONS FOR SHRUB PLANTINGS USING COLORED WIRE FLAGS (REFER TO SPECIAL PROVISION SECTION 621 - LANDSCAPING (STREAMBANK REHABILITATION PLANTINGS)).
8. SHRUBS WILL BE LAID OUT AT APPROXIMATELY A 1.5'X1.5' SPACING, IN STAGGERED ROWS.
9. THE CONTRACTOR SHALL USE EXTRA CARE NOT TO DISLODGE OR TEAR BLANKET WHILE PLANTING.
10. THE SPECIFIED SHRUB PLANTINGS (I.E., "TUBELINGS") SHALL BE INSTALLED IN ACCORDANCE WITH SPECIAL PROVISION SECTION 621 - LANDSCAPING (STREAMBANK REHABILITATION PLANTINGS) AND AS DIRECTED. REFER ALSO TO DETAIL 1B FOR INSTALLATION METHOD.
11. WATER ALL PLANTS AT THE TIME OF INSTALLATION, AND MAINTAIN IN ACCORDANCE WITH THE REQUIREMENTS OF ESTABLISHMENT PERIOD (REFER TO SPECIAL PROVISION SECTION 621 - LANDSCAPING (STREAMBANK REHABILITATION PLANTINGS)).
12. SEED ALL EXPOSED SOIL AT TOP OF BANK WITH SPECIAL SEED MIX AND COVER WITH STRAW MULCH OR TEMPORARY EROSION CONTROL BLANKET IN ACCORDANCE WITH SPECIAL PROVISION SECTION 656 - TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL.

PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	
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REVISIONS	
FIELD CHANGES	
PLANS	

PLOT DATE: 6/9/03  
AutoCAD File: bio-details.dwg

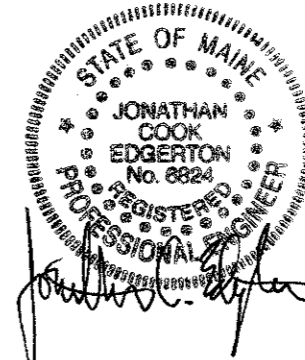
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

ROUTE 26  
NEW GLOUCESTER-POLAND  
ROYAL RIVER MITIGATION SITE  
FLOODPLAIN RESTORATION

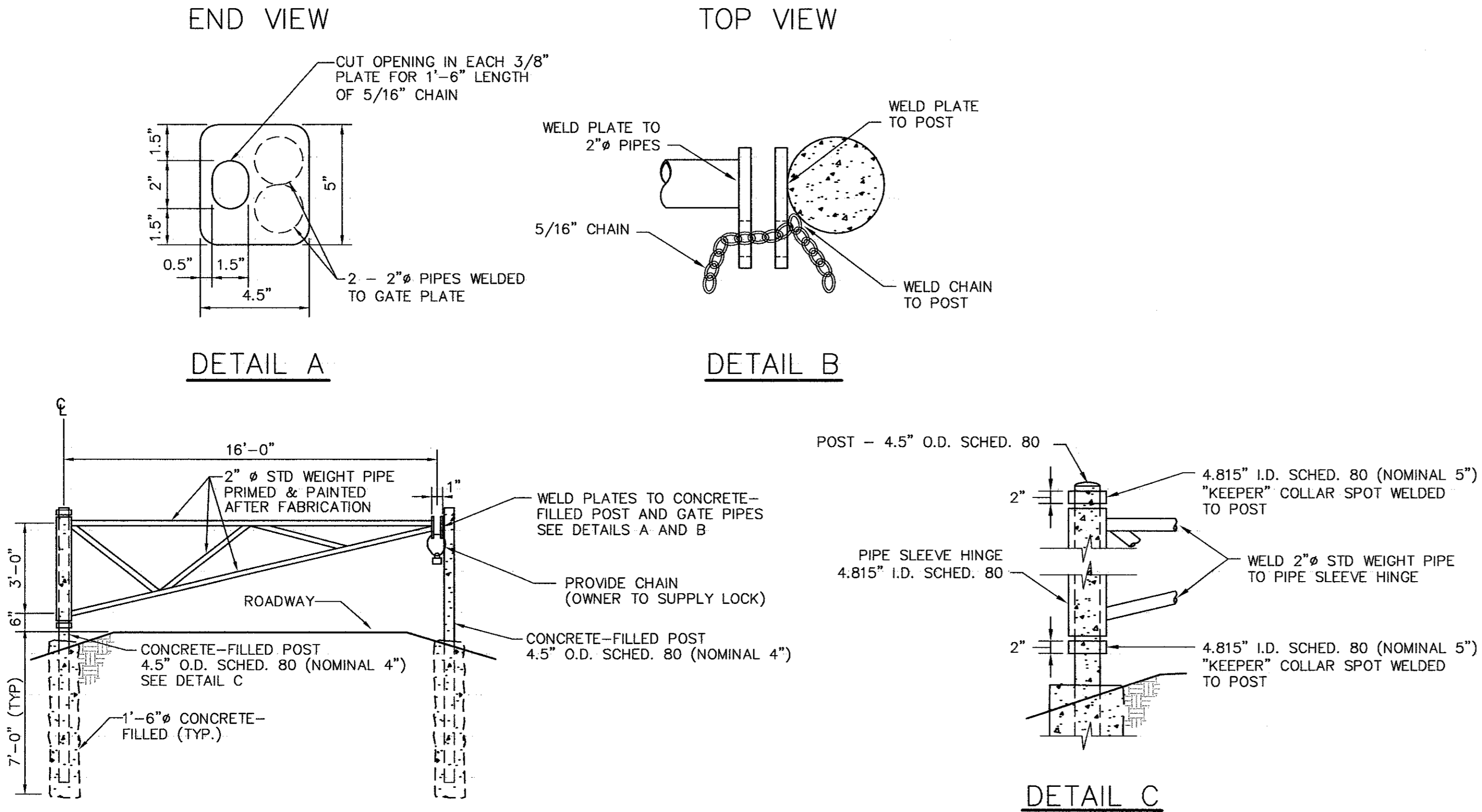
TYPICAL STREAMBANK REHABILITATION DETAILS

WOODLOT  
ALTERNATIVES, INC.  
ENVIRONMENTAL CONSULTANTS

Wright-Pierce  
99 Main Street Topsham, Maine USA 04088  
TEL (207) 725-8721 FAX (207) 725-8414

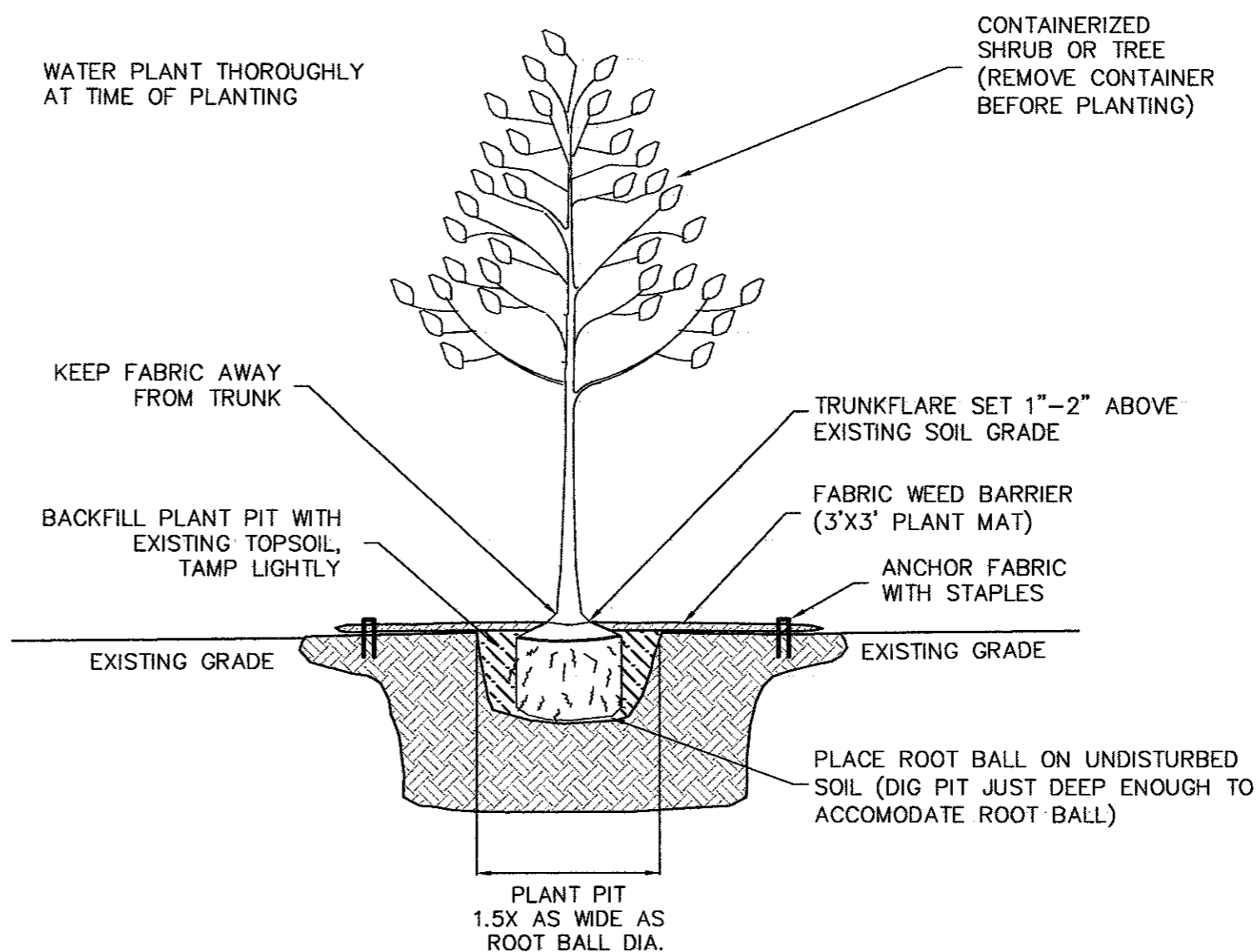


PIPE GATE DETAIL (TYP.)  
NOT TO SCALE

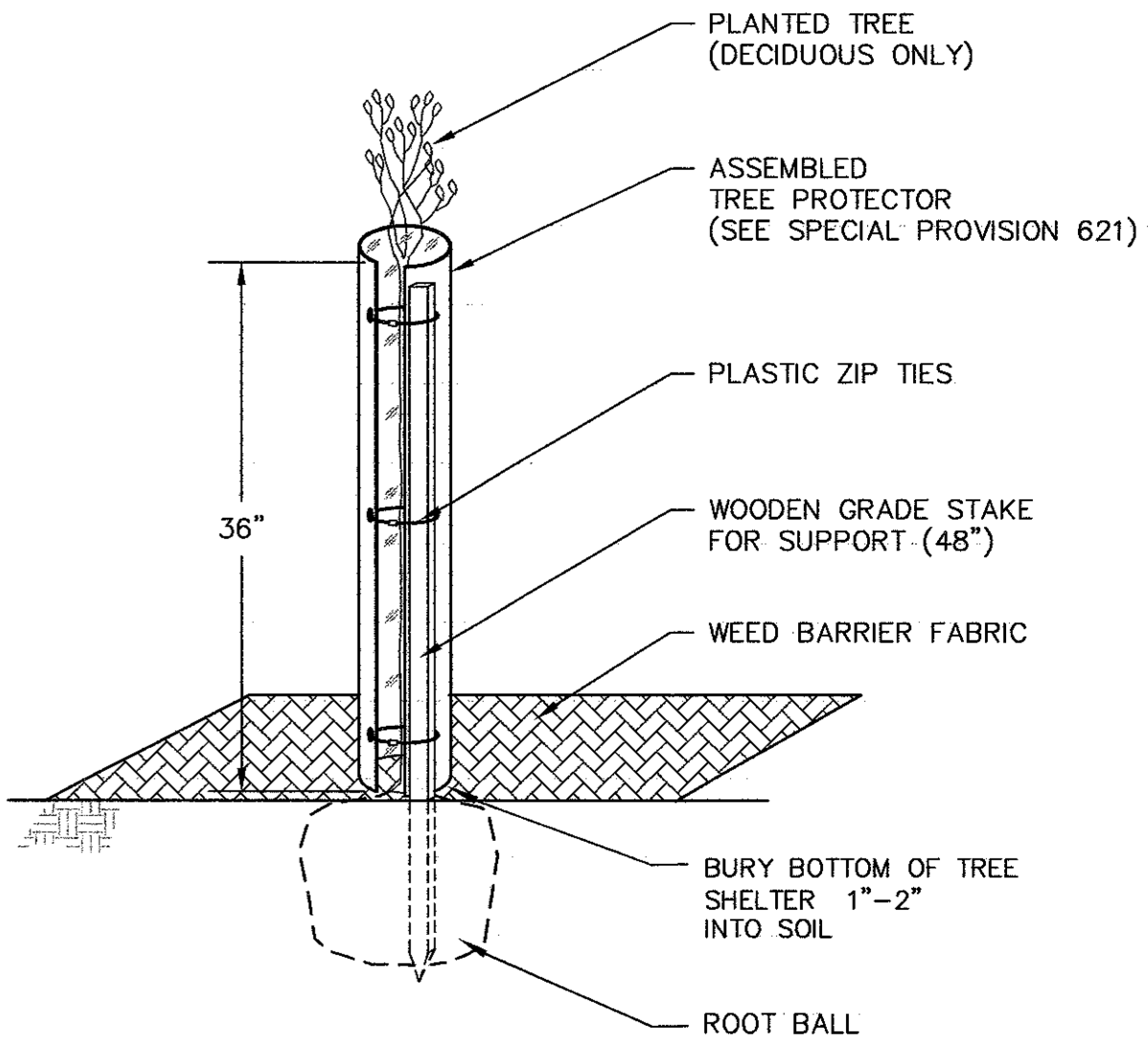


NOTE:  
APPLY HIGH-VISIBILITY REFLECTIVE TAPE TO BOTH SIDES OF GATE AT THE TIME OF INSTALLATION.

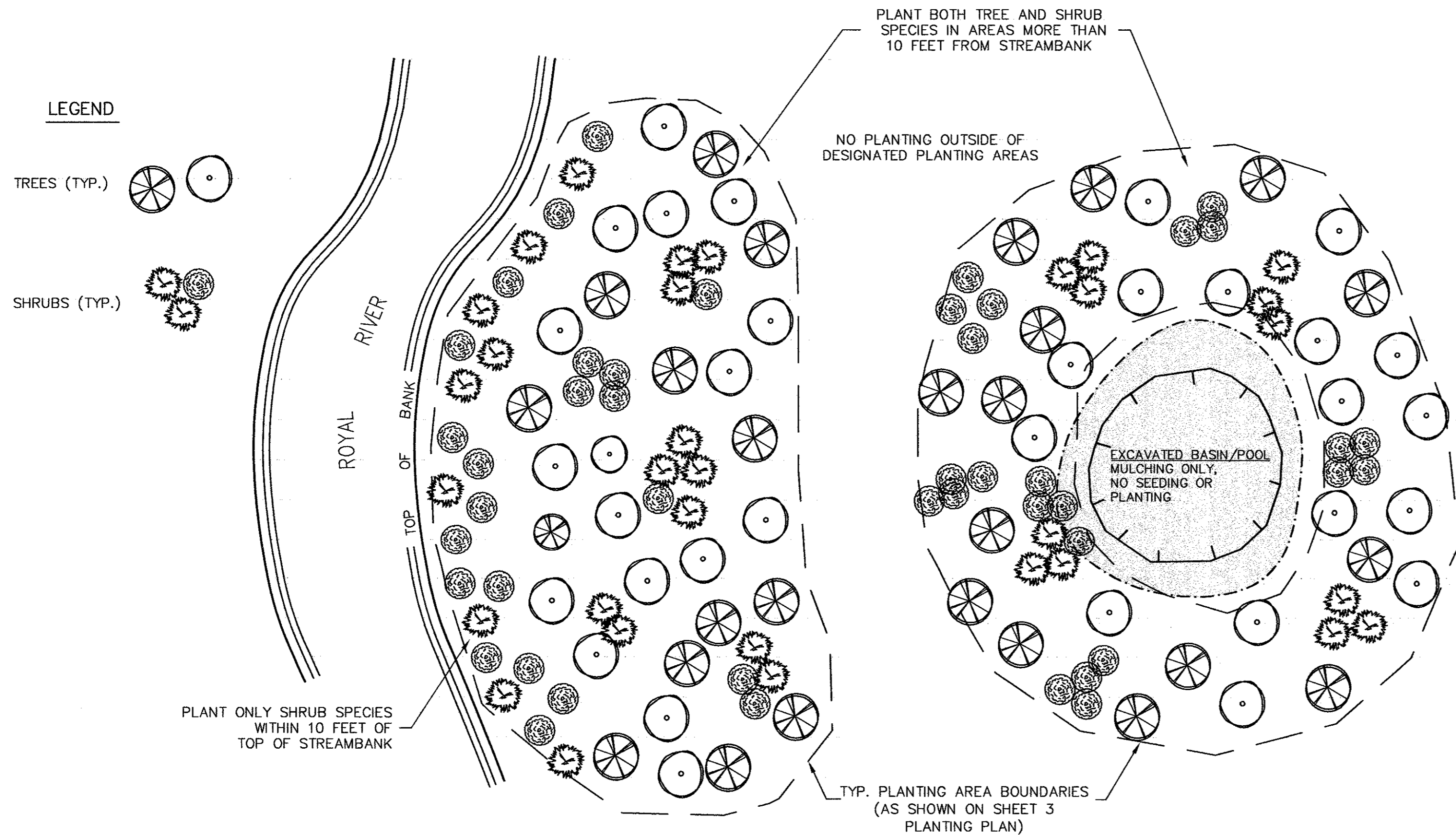
TREE/SHRUB PLANTING DETAIL (TYP.)  
NOT TO SCALE



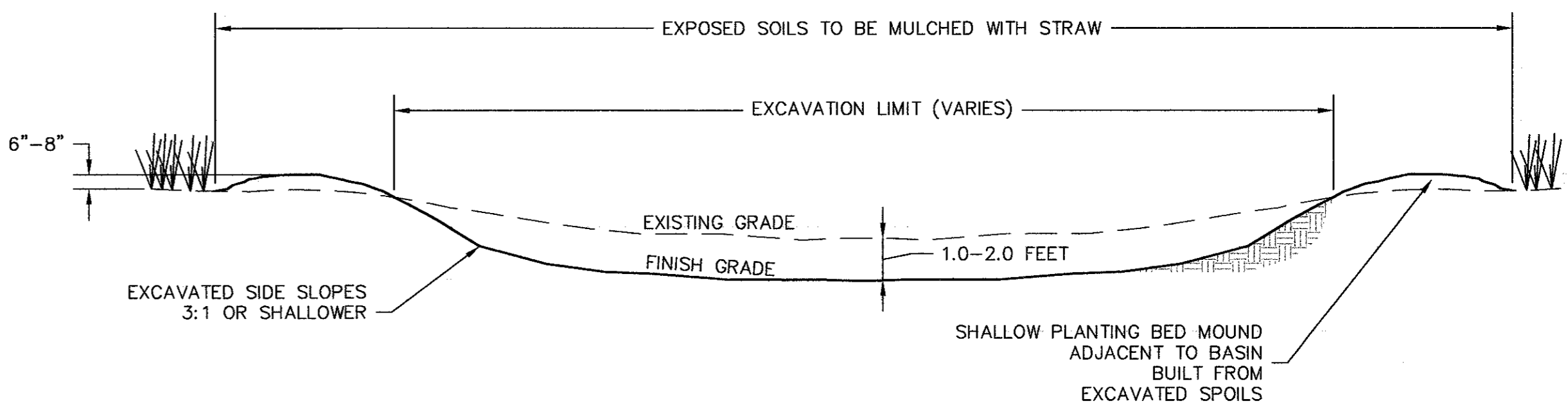
TREE SHELTER DETAIL (TYP.)  
NOT TO SCALE



PLANTING GROUP DETAIL (TYP.)  
NOT TO SCALE



BASIN EXCAVATION DETAIL (TYP.)  
NOT TO SCALE

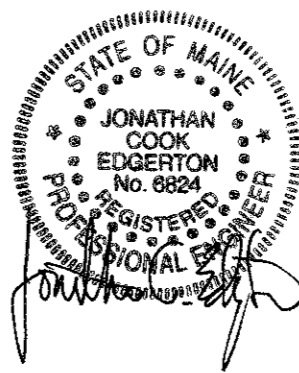
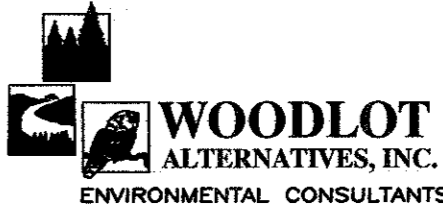


PLOT DATE: 6/9/03  
AutoCAD File: details.dwg

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

ROUTE 26  
NEW GLOUCESTER-POLAND  
ROYAL RIVER MITIGATION SITE  
FLOODPLAIN RESTORATION

PLANTING AND MISCELLANEOUS DETAILS



PROJECT DESIGN ENGINEER	DATE
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REVISIONS	
FIELD CHANGES	
PLANS	

